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EXAMINER

BOYER, RANDY

ART UNIT

PAPER NUMBER

1797

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/516,672	Applicant(s) SCHULZE-TRAUTMANN ET AL.	
	Examiner RANDY BOYER	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-29,31,32,36-41,43-46 and 51-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-29,31,32,36-41,43-46 and 51-54 is/are rejected.
- 7) ☒ Claim(s) 44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>27 March 2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office Action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 March 2009 has been entered.

Response to Amendment

2. Examiner acknowledges Applicant's response filed 27 March 2009 containing amendments to the claims and remarks.

3. Claims 25-29, 31, 32, 36-41, 43-46, and 51-54 are pending. Claim 54 is newly added.

4. Examiner acknowledges that Applicant's amendments to the claims are sufficient to overcome the previous rejections based on nonstatutory obviousness-type double patenting.

5. The previous rejections of claims 25-29, 31, 32, 36-41, 43-46, and 51-53 under 35 U.S.C. 102(e) are withdrawn. The previous rejections of claims 25-29, 31, 32, 36-41, 43-46, and 51-53 under 35 U.S.C. 103(a) are maintained. New grounds for rejection of claims 25-29, 31, 32, 36-41, 43-46, and 51-54 are entered under 35 U.S.C. 102(e) and

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35 U.S.C. 103(a). Likewise, newly added claim 54 is rejected under 35 U.S.C. 102(e) and 35 U.S.C. 103(a). Finally, claims 25 and 31 are rejected under 35 U.S.C. 112, second paragraph and objection is entered with respect to claim 44. The objection and rejections follow.

Claim Objections

6. Claim 44 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place it in proper dependent form, or rewrite the claim in independent form.

7. With respect to claim 44, the claim recites a range of catalyst metal loading (0.1 to 2.0% by mass) that is broader than that recited in independent claim 31 (0.2 to 2.0% by mass). Thus, claim 44 does not further limit the claim(s) from which it depends. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 25 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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10. With respect to claims 25 and 31, Applicant's use of the claim language "the catalyst comprising 60 to 95 by mass of zeolite of the beta type," "5 to 39.8 by mass of gamma-aluminum oxide," and "in an amount of 0.2 to 2.0 by mass" renders the claims indefinite inasmuch as Applicant has not specified any unit of measurement (e.g., %, ppm, ppb, etc.) – i.e. the claims do not make clear that Applicant is specifying weight (or mass) percentages of the respective catalyst constituents. Examiner suggests correction by amending the claims to read, in relevant part: "the catalyst comprising 60 to 95% by mass of zeolite of the beta type," "5 to 39.8% by mass of gamma-aluminum oxide," and "in an amount of 0.2 to 2.0% by mass" (emphases added) (see Applicant's specification, page 7, lines 1-16). Appropriate correction is required.

Claim Rejections - 35 USC § 102 / 35 USC § 103

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

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said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 25-29, 31, 32, 36-41, 43-46, and 51-54 rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over John (US 7,169,726). Examiner notes that Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

15. With respect to claims 31, 36, 37, 43, 44, and 52, John discloses a process for preparing a microcrystalline paraffin by catalytic hydroisomerization (see John, column 1, lines 7-10) comprising: processing FT paraffins having carbon atoms in the range of 20 to 105 (see John, column 3, lines 5-8) in the presence of a catalyst based on a beta-zeolite (see John, column 2, lines 20-25); wherein the process is conducted at 250°C (see John, column 5, lines 42-43; and column 6, line 62), and at elevated pressure (e.g., about 50 bar or 5 MPa) in the presence of hydrogen (see John, column 5, lines 45-50; and column 6, line 61); wherein the catalyst comprises 60% to 95% by mass of beta-

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zeolite (see John, column 2, lines 24-25), 5% to 39.8% by mass of gamma aluminum oxide (see John, column 2, lines 26-28) having a specific surface area of 150-350 m²/g (see John, column 4, lines 45-47), and one or more metals of transition group 8 of the periodic table (e.g., platinum) in an amount of 0.2% to 2.0% by mass (see John, column 2, lines 29-36).

16. With respect to claim 32, John discloses wherein the beta-zeolite comprises pores having a diameter between 0.50 nm and 0.80 nm (see John, column 3, lines 66-67).

17. With respect to claims 38 and 39, John discloses wherein the hydrogen is fed to the paraffin in a feed ratio of hydrogen to FT paraffin between 100:1 and 2000:1 (see John, column 5, lines 35-37).

18. With respect to claims 40 and 51, John discloses wherein the process is carried out at a loading from 0.1 v/v-h and 1 v/v-h (see John, column 5, lines 39-41).

19. With respect to claim 41, John discloses wherein the catalyst comprises 60% or more by weight of beta-zeolite having a pore size in the range of 0.5 nm to 0.8 nm (see John, column 2, lines 20-25; and column 3, lines 66-67).

20. With respect to claims 45 and 53, John discloses wherein the FT paraffin has a solidification point of 97°C (see John, column 7, Table).

21. With respect to claims 46 and 54, John discloses wherein the microcrystalline paraffin is prepared in a single process step with removal of the short chain constituents (see John, column 5, lines 45-51).

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22. With respect to claims 25, 27, and 28, John discloses wherein the process is used to produce a microcrystalline paraffin from a FT paraffin feed that is free of aromatics and naphthenes (see John, column 1, lines 5-10; column 2, lines 9-16; and column 3, lines 6-8).

23. With respect to claims 26 and 29, John discloses wherein the microcrystalline paraffin has a needle penetration value of less than 100 with a higher proportion of isoalkanes than the FT feed from which it is produced (see John, column 7, Table).

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

26. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

27. Claims 25-29, 31, 32, 36-41, 43-46, and 51-53 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hoek (US 2004/0199040). Alternatively, claims 25-50 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hoek (US 2004/0199040), as evidenced by Eilers (EP 668342 A1) and/or Bertaux (EP 776959 A2).

28. With respect to claim 25, Hoek discloses a microcrystalline paraffin as solid product, prepared by catalytic hydroisomerization of FT paraffins (see Hoek, Abstract; and page 2, paragraph 15).

Hoek does not explicitly disclose wherein the FT paraffins have a carbon chain length distribution in the range from 20 to 105 at temperatures above 200°C; or wherein the catalytic hydroisomerization occurs in the presence of a catalyst comprising β -zeolite and gamma aluminum oxide.

However, Hoek discloses wherein the feed material for production of the microcrystalline paraffins is obtained from a FT synthesis process, e.g. that described by Eilers and Bertaux (see Hoek, page 2, paragraph 15). In this regard, Examiner notes

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that the FT synthesis processes disclosed by both Eilers and Bertaux produce paraffins having a carbon chain length distribution greater than 20 (see Eilers, page 6, lines 12-23) (see Bertaux, column 3, lines 15-29). In addition, Hoek that a preferred hydroisomerization catalyst is one such as that disclosed in EP-A-776959 [Bertaux] (see Hoek, page 1, paragraph 13). In this regard, Examiner notes that Bertaux discloses a β -zeolite hydroconversion catalyst (see Bertaux, column 4, lines 27-36).

Therefore, Hoek (by reference to both Eilers and Bertaux as sources of acceptable feed material; and by reference to Bertaux as disclosure of a preferred catalyst) inherently discloses wherein the FT paraffin feed material has a carbon chain length distribution of greater than 20, and wherein the catalyst is a β -zeolite. Finally, both Hoek and Bertaux disclose the use of alumina as a known constituent of hydroisomerization catalysts (see Hoek, page 1, paragraph 13) (see Bertaux, column 3, lines 43-50). Moreover, Bertaux discloses wherein such hydroisomerization catalyst may comprise a hydrogenation component (e.g., platinum, palladium) supported on a refractory oxide carrier comprising mixtures of alumina with zeolite (see Bertaux, column 3, lines 43-50).

In view of the foregoing, Examiner finds Applicant's claim 25 unpatentable over the disclosure of Hoek in view of what is already known in the art, as evidenced by Eilers and Bertaux.

29. With respect to claim 26, Hoek discloses wherein the paraffin has a needle penetration value of less than 10 mm (see Hoek, Table 1).

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30. With respect to claims 27 and 28, Hoek discloses wherein the paraffin is substantially free of aromatics, heterocyclic compounds, and naphthenes (see Hoek, page 2, paragraph 19).

31. With respect to claim 29, Hoek discloses wherein the paraffin has a proportion by weight of isoalkanes greater than that of normal alkanes in the paraffins (see Hoek, page 2, paragraph 19; and Table 1).

32. With respect to claim 31, Hoek discloses a process for preparing a microcrystalline paraffin by catalytic hydroisomerization comprising the steps of: (a) use of FT paraffins as starting material, having greater than 20 carbon atoms (see discussion *supra* at paragraph 28); (b) use of a β -zeolite catalyst (see Hoek, page 1, paragraphs 6-8) (see discussion *supra* at paragraph 28); (c) use of a process temperature above 200°C (see Hoek, page 1, paragraph 7); and (d) action of pressure in the presence of hydrogen (see Hoek, page 1, paragraph 7), e.g. at temperatures in the range of 230°C to 270°C and pressures in the range of 3 MPa to 8 MPa (see Hoek, page 1, paragraph 7).

33. With respect to claims 32 and 41, Hoek discloses the use of *any* suitable amorphous silica-alumina carrier (e.g. a zeolite) with a majority of pores having diameters in the mesoporous range as a support material for a metal of transition group 8 (see Hoek, page 1, paragraphs 8-10).

34. With respect to claims 36 and 37, Hoek discloses wherein the process may be conducted at a temperature between 200C and 400C and a pressure between 10 bar and 100 bar (see Hoek, page 1, paragraph 7).

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35. With respect to claims 38 and 39, Hoek discloses wherein the feed ratio of hydrogen to FT paraffin may be in the range of 250:1 to 600:1 m^3/m^3 (see Hoek, page 1, paragraph 7).

36. With respect to claims 40 and 51, Hoek is not specifically limited with respect to the amount of catalyst to be used (see Hoek, entire disclosure).

37. With respect to claims 43, 44, and 52, Hoek discloses wherein the catalyst may be platinum with a metals contents of between 0.1 wt% and 2.0 wt% (see Hoek, page 1, paragraph 8).

38. With respect to claims 45, 46, and 53, Hoek discloses wherein the FT paraffin used has a solidification point of 60°C or greater (see Hoek, page 1, paragraph 14) and wherein short-chain constituents may be removed prior to the step of hydroisomerization (see Hoek, page 2, paragraph 17; and Example 1).

39. With respect to claim 54, Hoek discloses wherein the process optionally comprises a deoiling step (see Hoek, page 2, paragraph 18).

40. Claims 25-29, 31, 32, 36-41, 43-46, and 51-54 are rejected under 35 U.S.C. 103(a) as obvious over Wittenbrink (WO 01/74969 A2) in view of either (1) Hoek (US 2004/0199040) and Bertaux (EP 776959 A2) or (2) Carati (US 5,981,419).

41. With respect to claim 25, Wittenbrink discloses a microcrystalline paraffin as solid product, prepared by catalytic hydroisomerization of FT paraffins having a carbon chain length distribution greater than 20 (see Wittenbrink, Abstract; and page 5, first paragraph).

Wittenbrink does not explicitly disclose wherein the hydroisomerization occurs in the presence of a catalyst comprising β -zeolite and aluminum oxide.

However, Wittenbrink discloses wherein the hydroisomerization catalyst support may be any zeolite (see Wittenbrink, page 8) ("The support for the metals can be any refractory oxide or zeolite or mixtures thereof.") (emphasis added). In this regard, it is known in the art to use a zeolite/alumina catalyst for hydroisomerization of paraffinic feedstocks for the production of microcrystalline paraffins, as evidenced by Hoek and Bertaux (see discussion *supra* at paragraph 28). Likewise, Carati discloses a beta-zeolite based catalyst comprising aluminum oxide for the selective hydroisomerization of n-paraffins into isoparaffins and which has minimum activity towards cracking of the feedstock (see Carati, Abstract; column 1, lines 15-17 and 25-29; and column 8, Table 1).

Therefore, the person having ordinary skill in the art would have been motivated to modify the process of Wittenbrink to provide for use of a beta-zeolite/alumina catalyst (e.g., similar to that disclosed by Carati) in order to minimize the amount of hydrocracking and maximize the yield of wax isoparaffins produced.

Finally, the person having ordinary skill in the art would have had a reasonable expectation of success in modifying the process of Wittenbrink as described above because: (1) Wittenbrink discloses that the catalyst used may be any suitable mixture of zeolite and refractory oxide; and (2) beta-zeolite/alumina catalysts are known in the art for the hydroisomerization of paraffinic feedstocks (as evidenced by Hoek/Bertaux and Carati).

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42. With respect to claim 26, Wittenbrink discloses wherein the paraffin may have a needle penetration value of less than 10 mm (see Wittenbrink, Table 2).

43. With respect to claims 27 and 28, Wittenbrink discloses wherein the paraffin is free of aromatics, heterocyclic compounds, and naphthenes (see Wittenbrink, entire disclosure; and page 6, second paragraph).

44. With respect to claim 29, Wittenbrink discloses wherein the paraffin is created via a process for hydroisomerization (see Wittenbrink, pages 6-10).

45. With respect to claim 31, Wittenbrink discloses a process for preparing a microcrystalline paraffin by catalytic hydroisomerization comprising the steps of: (a) use of FT paraffins as starting material, having greater than 20 carbon atoms (see Wittenbrink, page 5, paragraph 1); (b) use of a zeolite catalyst (see Wittenbrink, page 8, second paragraph) (see discussion *supra* at paragraph 41); (c) use of a process temperature above 200°C (see Wittenbrink, page 7, second paragraph); and (d) action of pressure in the presence of hydrogen (see Wittenbrink, page 7, second paragraph).

46. With respect to claims 32 and 41, Wittenbrink discloses the use of any zeolite catalyst support (see Wittenbrink, page 8, second paragraph).

47. With respect to claims 31, 36, and 37, Wittenbrink discloses wherein the process may be carried out at temperatures in the range of 230°C to 270°C and pressures in the range of 3 MPa to 8 MPa (see Wittenbrink, page 7, second paragraph).

48. With respect to claims 38 and 39, Wittenbrink discloses wherein the feed ratio of hydrogen to FT paraffin may be in the range of 250:1 to 600:1 m³/m³ (see Wittenbrink, page 8, table).

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49. With respect to claims 40 and 51, Wittenbrink is not specifically limited with respect to the amount of catalyst to be used (see Wittenbrink, entire disclosure).

50. With respect to claims 43, 44, and 52, Wittenbrink discloses wherein the catalyst may be platinum with a metals content of between 0.5 wt% and 20 wt% (see Wittenbrink, page 8, second paragraph).

51. With respect to claims 45, 46, and 53, Wittenbrink discloses wherein the FT paraffin used has carbon atoms of 20 or greater and wherein short-chain constituents may be removed prior to the step of hydroisomerization (see Wittenbrink, page 6, second and third paragraphs).

52. With respect to claim 54, Wittenbrink discloses wherein the microcrystalline paraffins are prepared in a single step (see Wittenbrink, page 7, second and third paragraphs) and wherein the product may be fractionated to obtain a wax fraction having a desired melting point and needle penetration value (see Wittenbrink, page 8, first paragraph).

Response to Arguments

53. Applicant's arguments filed 27 March 2009 have been fully considered but they are not persuasive.

54. Examiner understands Applicant's principal arguments to be:

- I. Neither Hoek nor Bertaux disclose a catalyst as specified in Applicant's claims 25 and 31.
- II. Wittenbrink does not disclose use of a catalyst as specified in Applicant's claims 25 and 31, and does

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not specify an operating temperature and pressure as claimed.

55. With respect to Applicant's first argument, see discussion *supra* at paragraph 28.

56. With respect to Applicant's second argument, Wittenbrink discloses contacting a FT paraffin with a mixed refractory oxide and zeolite catalyst at temperatures in the range of 204°C to 343°C and pressures in the range of 300 psi to 1500 psi (about 2.07 MPa to about 10.34 MPa) (see Wittenbrink, page 8) which is entirely overlapping with the temperatures and pressures specified in Applicant's claims. With regard to the catalyst, Wittenbrink discloses the use of any refractory oxide or zeolite or mixtures thereof, and even discloses alumina as a preferred support material (see Wittenbrink, page 8). In this regard, mixed beta-zeolite and alumina catalysts are known in the art (as evidenced from the prior art of record) to be suitable for use in processes such as that disclosed by Wittenbrink (see e.g., Carati). Finally, with regard to the particular characteristics of the catalyst, Wittenbrink discloses wherein the zeolite component is present in an amount ranging from 60 wt% to 70 wt%, the refractory oxide component is present in an amount ranging from 20 wt% to 25 wt%, the group VIII metal is present in an amount ranging from 2 wt% to 3 wt%, and the catalyst has a surface area in the range of 180 m²/g to 400 m²/g (see Wittenbrink, page 9).

Conclusion

57. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Randy Boyer whose telephone number is (571) 272-

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7113. The examiner can normally be reached Monday through Friday from 10:00 A.M. to 7:00 P.M. (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola, can be reached at (571) 272-1444. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RPB

/Glenn A Caldarola/

Acting SPE of Art Unit 1797